



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-1074; Project Identifier MCAI-2021-00447-R]

RIN 2120-AA64

Airworthiness Directives; Bell Textron Canada Limited Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Supplemental notice of proposed rulemaking (SNPRM).

SUMMARY: The FAA is revising a notice of proposed rulemaking (NPRM) that applied to certain Bell Textron Canada Limited Model 429 helicopters. This action revises the NPRM by revising the Required Actions paragraphs to include calendar compliance times. The FAA is proposing this airworthiness directive (AD) to address the unsafe condition on these products. Since these actions would impose an additional burden over those in the NPRM, the agency is requesting comments on this SNPRM.

DATES: The FAA must receive comments on this SNPRM by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this SNPRM, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email

productsupport@bellflight.com; or at <https://www.bellflight.com/support/contact-support>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1074; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, this SNPRM, the Transport Canada AD, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-1074; Project Identifier MCAI-2021-00447-R” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may again revise this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this SNPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this SNPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this SNPRM. Submissions containing CBI should be sent to Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued an NPRM to amend 14 CFR part 39 by adding an AD that would apply to Bell Textron Canada Limited Model 429 helicopters, serial numbers (S/N) 57001 and subsequent. The NPRM published in the *Federal Register* on December 23, 2021 (86 FR 72891). In the NPRM, the FAA proposed to require visually inspecting the external surface of the tail rotor (TR) gearbox support assembly, borescope inspecting or visually inspecting the inside of the tailboom for certain conditions, and performing a tactile inspection. Depending on the results of the inspections, the NPRM proposed to require removing certain rivets from service or repairing gaps in accordance with FAA-approved methods. The NPRM also proposed to require repeating these inspections within certain intervals.

The NPRM was prompted by Transport Canada AD CF-2021-15, dated April 14, 2021 (Transport Canada AD CF-2021-15), issued by Transport Canada, which is the aviation authority for Canada, to correct an unsafe condition for Bell Textron Canada Limited Model 429 helicopters, S/N 57001 and subsequent. Transport Canada advises of multiple in-service reports of failed rivets at the joint between the tailboom skin and the

TR gearbox support assembly part number (P/N) 429-034-701-101 or P/N 429-035-705-101. Transport Canada states that in-service reports also revealed a quality escape resulted in a gapping condition between the tailboom skin and the TR gearbox support fitting at some locations around the joint, and that rivets of inadequate grip length have been installed at the affected joint. This condition, if not addressed, could result in progressive deterioration of the joint structural integrity, detachment of the TR gearbox support assembly and loss of control of the helicopter.

Accordingly, Transport Canada AD CF-2021-15 requires, for certain serial-numbered helicopters, an initial visual inspection of the rivets at the TR gearbox support assembly for signs of failed rivets or inadequate grip length. Transport Canada AD CF-2021-15 also requires, for all serial-numbered helicopters defined in the applicability, repeating the initial visual inspection at intervals not to exceed 400 hours air time or 12 months, whichever occurs first. Transport Canada AD CF-2021-15 also requires repair or replacement of affected parts if discrepancies are found. Transport Canada considers its AD an interim action and stated that further AD action may follow.

Actions Since the NPRM was Issued

Since the NPRM was issued, the FAA determined that due to thermal cycling the compliance times in the NPRM should be revised to include calendar compliance times. According to Bell, thermal cycling is independent of flight hours (FH) and can occur when an aircraft is stationary and is also a significant contributor to the unsafe condition. Accordingly, the FAA has determined the proposed paragraph (g) of the proposed AD must be revised by including calendar compliance times.

Also, since the NPRM was issued, the FAA determined the proposed paragraph (g)(1)(iii) of the proposed AD must be revised by deleting the word “not” when referring to whether or not a rivet comes out when pulled with pliers or when pulled by hand. This wording was a minor editorial error and the correct wording should only state “does.”

Comments

The following discussion presents the comments received on the NPRM and the FAA’s response.

Request to Revise the Required Actions Paragraphs of the Proposed AD

Bell requested that the FAA revise the Required Actions paragraphs of the proposed NPRM dealing with the compliance time intervals by including the calendar compliance time. The commenter explained the reasoning for calendar intervals is based on thermal cycling, which could be a contributing factor to the rivets failing. The commenter further stated thermal cycling can occur when the aircraft is stationary.

The FAA agrees and has revised the Required Actions paragraphs in this proposed AD to include calendar compliance times, which correspond to the compliance times specified in Transport Canada AD CF-2021-15. Since the calendar time is a component of the unsafe condition, the FAA has determined there should be no differences between this proposed AD and the Transport Canada AD in regards to the calendar compliance time. The FAA also revised the Differences Between this SNPRM and Transport Canada AD CF-2021-15 paragraph in this proposed AD by deleting the paragraphs associated with the calendar interval differences.

Bell requested that the FAA revise the Required Actions paragraphs of the proposed AD by including instructions to replace any rivet that is removed from service. The commenter stated missing or defective rivets without a gapping condition should be replaced in accordance with a Bell structural repair manual; and missing or defective rivets with excessive gapping should be repaired by contacting Bell for an approved repair method for the gapping condition and replacement of the rivets.

The FAA disagrees. For the excessive gapping condition, paragraph (g)(1)(i)(B) of this proposed AD requires operators to repair the gaps in accordance with an FAA-approved method. The FAA does not require operators to contact Bell for approved repair methods. Where the commenter refers to replacing rivets for certain conditions, paragraphs (g)(1)(i)(A), (g)(1)(i)(B), (g)(1)(ii)(B), and (g)(1)(iii) of this proposed AD only require that operators remove the rivets from service. This proposed AD does not mandate the method that operators must use to replace removed rivets. To replace rivets, operators are expected to use FAA-accepted methods, such as a Bell structural repair manual.

Bell requested that the FAA revise the Required Actions paragraph of the proposed NPRM by deleting “not” in paragraph (g)(1)(iii) of the proposed AD and only

keeping “does.” The commenter stated that this inspection is to ensure that the rivets heads are not fractured, and if the rivet does come out when pulled with pliers or when pulled by hand, then the rivet should be removed from service.

The FAA agrees and has revised paragraph (g)(1)(iii) of this proposed AD by deleting “does not” and replacing it with “does.” The FAA intended to correspond with the actions specified Bell Alert Service Bulletin (ASB) 429-19-47, Revision B, dated January 27, 2021 (ASB 429-19-47 Rev B), and misinterpreted the discrepant condition for the tactile inspection.

FAA’s Determination

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to the FAA’s bilateral agreement with Canada, Transport Canada, its technical representative, has notified the FAA of the unsafe condition described in its AD. The FAA is proposing this AD after determining the unsafe condition described previously is likely to exist or develop in other helicopters of the same type design. Certain changes described above expand the scope of the NPRM. As a result, it is necessary to reopen the comment period to provide additional opportunity for the public to comment on this SNPRM.

Related Service Information Under 1 CFR Part 51

The FAA reviewed ASB 429-19-47 Rev B. This service information specifies procedures for an initial and repetitive general visual inspections and detailed inspections of the affected rivets at the joint between the tailboom skin and the TR gearbox support assembly. This service information also specifies procedures for replacing the affected rivets and repairing the gaps in accordance with an approved Bell structural repair scheme.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA also reviewed Bell ASB 429-19-47, dated August 28, 2019 (ASB 429-

19-47), and Bell ASB 429-19-47, Revision A, dated November 2, 2020 (ASB 429-19-47 Rev A). ASB 429-19-47 specifies the same general visual inspection as ASB 429-19-47 Rev A however, ASB 429-19-47 Rev A introduces a repetitive inspection and specifies corrective actions if any discrepant rivets are found. ASB 429-19-47 Rev A specifies the same procedures for the initial and repetitive general visual inspections and detailed inspections as ASB 429-19-47 Rev B however, ASB 429-19-47 Rev B revises the compliance section, description section, and materials section, and also the accomplishment instructions.

Proposed AD Requirements in this SNPRM

For Model 429 helicopters with S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that, as of the effective date of this proposed AD, have accumulated less than 300 total hours time-in-service (TIS), within 100 hours TIS or 6 months after accumulating 300 total hours TIS, whichever occurs first; or for Model 429 helicopters with S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that, as of the effective date of this proposed AD, have replaced certain part-numbered TR gearbox support assemblies and the helicopter has accumulated less than 300 total hours TIS since the replacement of the TR gearbox support assembly, within 100 hours TIS or 6 months after accumulating 300 total hours TIS since the replacement, whichever occurs first, this proposed AD would require visually inspecting the external surface of the TR gearbox support assembly for any rivet heads that have separated from their tail, measuring any gaps, and before further flight, removing affected rivets from service or repairing gaps in accordance with FAA-approved methods.

This proposed AD would also require either borescope inspecting or using a light source and mirror to visually inspect each rivet inside the tailboom for missing rivet tails, rivet tails not resting against the tailboom skin, and any rivet tails resting at the bottom of the tailboom. Depending on the inspection results, this proposed AD would require, before further flight, additional inspections or removing certain parts from service. This proposed AD would require performing a tactile inspection of certain rivets identified in the applicable service information and depending on the inspection results, removing rivets from service before further flight.

For Model 429 helicopters with S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that are not identified in paragraph (g)(1) of this proposed AD, this proposed AD would require, within 100 hours TIS or 6 months after the effective date of this proposed AD, whichever occurs first, performing the visual inspection of the TR gearbox support assembly, visually inspecting or borescope inspecting each rivet inside the tailboom, performing the tactile inspection, and accomplishing the applicable corrective actions described previously.

For Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent, this proposed AD would require, within 400 hours TIS or 12 months, whichever occurs first after the initial inspections required by this proposed AD, as applicable to your helicopter, and thereafter at intervals not to exceed 400 hours TIS or 12 months, whichever occurs first, performing the visual inspection of the TR gearbox support assembly, visually inspecting or borescope inspecting each rivet inside the tailboom, performing the tactile inspection, and accomplishing the applicable corrective actions described previously.

For Model 429 helicopters S/N 57001 and 57211, this proposed AD would require, within 400 hours TIS or 12 months after the effective date of this proposed AD, whichever occurs first, and thereafter at intervals not to exceed 400 hours TIS or 12 months, whichever occurs first, performing the visual inspection of the TR gearbox support assembly, visually inspecting or borescope inspecting each rivet inside the tailboom, performing the tactile inspection, and accomplishing the applicable corrective actions described previously.

Differences Between this SNPRM and Transport Canada AD CF-2021-15

Transport Canada AD CF-2021-15 requires replacing any rivets, and repairing any gaps that exceed 0.005 in (0.127 mm), in accordance with an approved Bell structural repair scheme, and submitting certain information to the manufacturer, whereas this proposed AD would require removing the rivets from service and repairing the gaps using an FAA-approved method instead. Transport Canada AD CF-2021-15 requires replacing any rivets if any gaps are 0.005 in (0.127mm) or less, whereas this proposed AD would require removing the rivets from service.

Interim Action

The FAA considers this proposed AD would be an interim action. Once final action has been identified, the FAA might consider further rulemaking.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 120 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD.

Visually inspecting the surface of the TR gearbox support assembly would take about 0.5 work-hour for an estimated cost of \$43 per inspection and \$5,160 for the U.S. fleet per inspection.

If required, replacing any affected rivets would take about 1 work-hour and parts would cost about \$110 per rivet for an estimated cost of \$195 per rivet replacement.

If required, measuring gaps would take about 0.5 work-hour for an estimated cost of \$43 per helicopter.

If required, repairing any gaps would take up to about 1 work-hour for an estimated cost of up to \$85 per repair.

Visually inspecting or borescope inspecting the inside of the tailboom would take about 0.5 work-hour for an estimated cost of \$43 per inspection and \$5,160 for the U.S. fleet per inspection.

Performing a tactile inspection would take about 0.5 work-hour for an estimated cost of \$43 per inspection and \$5,160 for the U.S. fleet per inspection.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Bell Textron Canada Limited: Docket No. FAA-2021-1074; Project Identifier MCAI-2021-00447-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bell Textron Canada Limited Model 429 helicopters, serial numbers (S/N) 57001 and subsequent, certificated in any category.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 5302, Rotorcraft tail boom.

(e) Unsafe Condition

This AD was prompted by reports of failed rivets between the tailboom skin and the tail rotor (TR) gearbox support assembly. The FAA is issuing this AD to detect failed rivets and rivets with inadequate grip length. The unsafe condition, if not addressed, could result in deterioration of the joint structural integrity, detachment of the TR gearbox support assembly, and loss of helicopter control.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) As of the effective date of this AD, for Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that have accumulated less than 300 total hours time-in-service (TIS), within 100 hours TIS or 6 months after accumulating 300 total hours TIS, whichever occurs first; or for Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that have replaced the TR gearbox support assembly part number (P/N) 429-034-701-101 or P/N 429-035-705-101 and the helicopter has accumulated less than 300 total hours TIS since the replacement of the TR gearbox support assembly, within 100 hours TIS or 6 months after accumulating 300 total hours TIS since the replacement, whichever occurs first:

(i) Visually inspect the external surface of the TR gearbox support assembly for any rivet heads that have separated from their tail. If there are any rivet heads that have separated from their tail, before further flight, measure any gaps between the TR gearbox support assembly and the tailboom skin by following the Accomplishment Instructions,

Part I, paragraphs 9.b. through 9.d. of Bell Alert Service Bulletin 429-19-47, Revision B, dated January 27, 2021 (ASB 429-19-47 Rev B).

(A) If there are no gaps or if any gap measures less than 0.005 in (0.127 mm), before further flight, remove the rivets from service.

(B) If there are any gaps that are equal to or exceed 0.005 in (0.127 mm), before further flight, repair the gaps in accordance with an FAA-approved method, and remove the rivets from service.

(ii) Borescope inspect or use a light source and mirror to visually inspect each rivet inside the tailboom for any missing rivet tails, any rivet tails resting at the bottom of the tailboom, and any rivet tails not resting against the tailboom skin.

(A) If there are any missing rivet tails, or any rivet tails resting at the bottom of the tailboom, before further flight, measure any gaps between the TR gearbox support assembly and the tailboom skin by following the Accomplishment Instructions, Part I, paragraphs 9.b. through 9.d. of ASB 429-19-47 Rev B, and perform the corrective actions specified in paragraphs (g)(1)(i)(A) or (B) of this AD as applicable.

(B) If there are any rivet tails not resting against the tailboom skin, before further flight, remove the rivets from service.

(iii) Perform a tactile inspection of the rivets identified in Figure 1 of ASB 429-19-47 Rev B, by pulling on each rivet tail with pliers or pulling by hand. If any rivet does come out when pulled with pliers or when pulled by hand, before further flight, remove the rivet from service.

(2) For Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that are not identified in paragraph (g)(1) of this AD, within 100 hours TIS or 6 months after the effective date of this AD, whichever occurs first, perform the actions as specified in paragraph (g)(1)(i) through (iii) of this AD.

(3) For Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent, within 400 hours TIS or 12 months, whichever occurs first after the initial inspections required by paragraph (g)(1) or (2) of this AD, as applicable to your helicopter, and thereafter at intervals not to exceed 400 hours TIS or 12 months,

whichever occurs first, accomplish the actions required by paragraphs (g)(1)(i) through (iii) of this AD.

(4) For Model 429 helicopters S/N 57001 and 57211, within 400 hours TIS or 12 months after the effective date of this AD, whichever occurs first, and thereafter at intervals not to exceed 400 hours TIS or 12 months, whichever occurs first, accomplish the actions required by paragraphs (g)(1)(i) through (iii) of this AD.

(h) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraphs (g)(1) and (2) of this AD, if those actions were performed before the effective date of this AD using Bell Alert Service Bulletin 429-19-47, Revision A, dated November 2, 2020; or Bell Alert Service Bulletin 429-19-47, dated August 28, 2019.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

(2) For service information identified in this AD, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email

productsupport@bellflight.com; or at <https://www.bellflight.com/support/contact-support>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(3) The subject of this AD is addressed in Transport Canada AD CF-2021-15, dated April 14, 2021. You may view the Transport Canada AD on the Internet at <https://www.regulations.gov> in Docket No. FAA-2021-1074.

Issued on April 15, 2022.

Ross Landes, Deputy Director for Regulatory Operations,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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